KANDIAK, Jan, mgr.inz. (Grudziadz)

"Transportation of dangerous and harmful materials; road transportation and storing" by mgr.inz. Andrzej Mazurkiewicz. Reviewed by Jan Kandiak. Przegl budowl i bud miesk 34 no.8:502-503 Ag '62.

KANDIAK, Jan

Use of rubber in contruction as preventive measure against vibration. Ochrona Pracy 17 no. 3:28-30. Mr '62

KANDIBOR, Aleksandr Ivanovich, geroy Sotsialisticheskogo Truda, deputat Verkhovnogo Soveta RSFSR; KOBYLYAKOV, L.M., redaktor; PERESYPKINA, Z.D., tekhnicheskiy redaktor

[For high daily output on the combine] Za vysokuiu dnevnuiu vyrabotku na kombaine. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 39 p. (MLRA 9:11)

(Combines (Agricultural machinery))

KANDIC, Branko, Potpukovnik dr.

Problems and status of psychiatric service in the modern Army.
Voj. san. pregl., Beogr. 13 no.5-6:263-265 May-June 56.

(MEDICINE, MILITARY AND NAVAL
psychiatric serv. in modern armed forces (Ser))

KANDIC, Branko, Potpukovnik dr.

Problems of psychiatry in the modern Army. Voj. san. pregl., Beogr, 13 no.7-8:375-377 July-Aug 56.

(PSYCHIATRY
in modern armed forces (Ser))
(MEDICINE, MILITARY AND NAVAL
psychiatry (Ser))

KANDIC, Branko, Potpukovnik dr.

Treatment of mental disorders with reserpine. Voj. san. pregl., Beogr. 14 no.1-2:44-47 Jan-Feb 57.

1. Nervna klinika VMA.
(MENTAL DISORDERS, ther.
reserpine (Ser))
(RESERPINE, ther. use
ment. disord. (Ser))

JOVANOVIC, Dragoljub, prof. d-r, [deceased]; KANDIC, Branko, doc. d-r; KRONJA, Tomislav, doc. d-r

Our experience with the treatment of mental patients with lysergic acid diethylamine (LSD-25). Voj. san. pregl. 17 no.3: 251-256 Mr '60.

1. Vojnomedicinska akademija u Beogradu.
(LYSERGIC ACID DIETHYLAMINE ther.)
(MENTAL DISORDERS ther.)

JOVANOVIC, Dragoljub, sanitetski pukovnik, [deceased]; KANDIĆ, Branko, sanitetski pukovnik doc. d-r; KRONJA, Tomislav, generalmajor sanitetske sluzbe.

Contribution to the investigation of the effect of LSD-25 in experiments in dogs. Vojsan. pregl., Beogr. 17 no.4:419-425 Ap '60.

1. Klinika za zivcane i dusevne bolesti.
(LYSERGIC ACID DIETHYLAMIDE pharmacol.)

KANDIC, B.

On some aspects of 5-HT (serotonin) in psychiatry. Neuropsihijatrija 9 no.2/3:160-165 '61.

1. Iz Neuropsihijatrijske klinike Vojno Medicinske Akademije u Beogradu. (Nacelnik: Puk. doc. dr B.Kandic).
(SEROTONIN ther) (MENTAL DISORDERS ther)

VUJOSEVIC, Krsto, sanitetski potpukovnik dr.; KANDIC, Branko, sanitetski pukovnik doc. dr; GRBESA, Branko, sanitetski potpukovnik doc. dr.

Neurological and psychic disturbances after cardiac arrest during general anesthesia. Vojnosanit. pregl. 19 no.10:704-706 O '62.
(HEART ARREST) (ANESTHESIA, INHALATION)
(NEUROLOGIC MANIFESTATIONS) (MENTAL DISORDERS)

KANDIC, Branko, sanitetski pukovnik doc. dr; GRBESA, Branko, sanitetski potpukovnik doc. dr

Survey on Melleril (TP-21), a new phenothiazine derivative, from the standpoint of its use in psychiatry. Vojnosanit. pregl. 19 no.9:619-620 S '62.

(TRANQUILIZING AGENTS)

HANDIC, Branko, sanitetski pukovnik docent dr

Comparison of narcoanalysis and LSD-25 seances in clinical practice. Vojnosanit. pregl. 19 no.12:828-831 D '62.

1. Vojnomedicinska Akademija u Beogradu, Klinika za nervne bolesti.
(PSYCHOANALYSIS) (LYSERGIC ACID DIETHYLAMIDE)

KANDIC, Branko, sanitetski pukovnik, docent, dr; DORDEVIC, Dragoljub, sanitetski major, dr.

Comparison of psychopharmaca LSD-25, BOL-148 and psilocybin in clinical practice. Vojnosanit. pregl. 20 no.5:275-279 My '63.

(HALLUCINOGENS) (LYSERGIC ACID DIETHYLAMIDE)
(DRUG ADDICTION)

S

KOSIC, Vojislav, sanitetski pukovnik, dr.; ARSENIJEVIC, Milan, sanitetski pukovnik, prof. dr.; KANDIC, Branko, sanitetski pukovnik, doc. dr.; GBESA. Branko, sanitetski potpukovnik, doc. dr.

Acute carbon monoxide poisoning in the mine Banovici. Vojnosanit pregl. 21 no.3:157-164 Mr '64.

1. Klinika za unutrasnje bolesti i Klinika za dusevne i zivcane bolesti, Vojnomedicinska akademija u Beogradu.

GRBESA, Branko, sanitetski potpukovnik, doc. dr. ERCEGOVAC, Nedeljko, sanitetski pukovnik, dr.; KANDIC, Branko, sanitetski pukovnik, doc. dr.

Cervicobrachial syndrome. Vojnosanit pregl. 21 no.3:194-196 Mr '64.

1. Klinika za zivcane i dusevne bolesti i Klinika za hirurske bolesti, Vojnomedicinska akademija u Beogradu.

KANDIDOV, P. P.

24949 KANDIDOV, P. P. -Fiziko-Mekhanicheskiye Svoystva Asfal'ta. Trudy Mosk. Avtomob-Dor. In-Ta Im Molotova Vyp 11, 1949, S. 58-65.

So: Letopis', No 33, 1949

BARANOV, A.V.; KANDIDOV, V.P.; ORDANCVICH, A.Ye.

Electronic modeling of transverse vibrations of rods in the presence of axial forces. Vest. Mosk. un. Ser. 3: Fiz., astron. 16 no.3:43-51 My-Je '61. MIRA 14:7)

1. Kafedra obshchey fiziki dlya mekhmata Moskovskogo gosudarstvennogo universiteta.

(Elastic rods and wires--Vibration)
(Oscillations--Electromechanical analogies)

S/271/63/000/002/030/030
A060/A126

AUTHORS: Baranov, A. V., Kandidov, V. P., Ordanovich, A. Ye.

TITLE: Investigation of the elastic oscillations of an aircraft using an electronic simulator

PERIODICAL: Referativnyy zhurnal, Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, no. 2, 1963, 75, abstract 2E401 (Dokl. 4-y Mezhvuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otraslyakh tekhn. Sb. 3. Moscow, 1962, 141 - 151)

TEXT: The main difficulty in calculating the oscillations of a complex aircraft structure consists in the fact that it possesses an infinite number of degrees of freedom and may only be conventionally and approximately reduced to a system with a finite number of degrees of freedom. The use of simulation meets with technical difficulties associated with an increase in the quantity of equipment. However, to a certain degree simulation is more expedient as compared to the complexity of numerical computations. The article considers the simulation of characteristic elastic oscillations of an aircraft. The problem is re-

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Investigation of the elastic oscillations of an...

duced to the analysis of a system with 33 degrees of freedom. Three stages are distinguished in the process of calculating the oscillations: 1) the selection of the scheme of analysis; 2) the setting up of the equation for the selected model; 3) the solution of the equations obtained. An expanded block diagram for the electronic simulator corresponding to the obtained system of equations is shown. The total number of amplifiers used in the simulator is 107; 36 of them are integrators. The simulator is a special-purpose model and is designed for finding the steady-state solutions of linear differential equations. The simulator operates in the audio-frequency range. This has made it possible to effectively reduce the drift and to increase the work of the operator as a result of increasing the time scale by a factor of more than 10. Investigation of oscillations on the simulator was carried out by the resonance method. Here the assumption was used that frequency and form of characteristic oscillations at resonance differ little from frequency and form of characteristic oscillations. The resonance method has made it possible to apply the method of eliminating degenerate motion of the entire system as a whole in the investigation of oscillations of the free aircraft. The model of the aircraft is fixed with the aid of a resonance system tuned to the frequency of the external force. In that case,

Card 2/3

Investigation of the elastic oscillations of an...

when the quality of the "suspender" system is sufficiently high, the interaction between the "suspender" and the model at the given frequency is practically absent and the behaviour of the model corresponds to the free aircraft. At other frequencies the "suspender" acts sufficiently strong, in particular, completely eliminating degenerate motions. The system is characterized by the fact that the force of interaction between the suspension system and the aircraft can be continuously monitored in the electronic simulator by an oscillograph. The latter makes it possible to attain a minimum interaction between the investigated system and the system of "suspension at a given frequency". The effectiveness of applying electronic simulators for the analysis of oscillations of complex aircraft structures is noted. The simulation method is particularly valuable at the design stage when the important thing is not so much the precise values of the frequencies and forms of the oscillations (the simulator precision is 2.5%), as the functional dependence of frequencies and forms upon those structural parameters which can be varied. There are 2 figures and 9 references.

Z. O.

[Abstracter's note: Complete translation]

Card 3/3

S/271/63/000/002/028/030
A060/A126

AUTHORS: Baranov, A. V., Kandidov, V. P., Ordanovich, A. Ye.

TITLE: Use of electronic simulation in investigating transverse oscillations of a rod with axial loads

PERIODICAL: Referativnyy zhurnal, Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, no. 2, 1963, 68, abstract 2B361 (Dokl. 4-y Mezhvuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otraslyakh tekhn. Sb. 3, Moscow, 1962, 153 - 161)

TEXT: It is pointed out that the study of transverse oscillations is required in the investigation of dynamic strength of such structures as towers, masts, helicopter blades, and turbine blades under the action of centrifugal forces, rockets moving under acceleration. Using an electronic simulator model, the transverse oscillations of a rocket moving under acceleration with a rigid accelerator in the tail were widely investigated. In the simulation of such problems the actual system in accordance with its oscillation properties is replaced by some discrete system with a finite number of degrees of freedom. The

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system of equations describing the motion of the discrete system is solved on the electronic simulator. The body of a contemporary rocket having considerable extension was replaced by a system of levers, springs and concentrated masses. The accelerator was considered as an absolutely rigid body with mass M_y and moment of inertia I_y. It was assumed that the force of the accelerator does not vary its direction under oscillation of the rocket and acts always strictly in the direction of flight. A separate cell $n + \frac{1}{2}$ of the discrete system is considered. Taking into account the actions of the neglected forces to the right and left of the cells and also the rise of moments as result of deformation of the springs, one constructs a system of equations of small oscillations for the $n + \frac{1}{2}$-th element. By the use of geometrical relationships one simplifies the system of original equations. By combining in pairs the equations holding for all the $n = 1, \ldots, N$, where N is the number of cells, one writes the equation of motion of the mass m_n. At the rocket tail the boundary conditions will be the equations of motion of the rigid accelerator. From the equations obtained one sets up the structural diagram of the electronic simulator. The simulator consists of seven cells. It is indicated that electronic simulation of a rocket re-

S/271/63/000/002/028/030
A060/A126

presenting an oscillating system "freely floating in space" is associated with certain difficulties. The absence of connections with fixed points makes it possible to displace itself and rotate without deformations. In the simulator motions arising from noise take the operational amplifiers outside their operational range and thus disturb their normal operation. To eliminate this, a special "fixing" was elaborated (at the mass center of the system). Equations are cited which have the form of a component of the acting force, for example, equations for elimination of progressive motion; it is indicated that in the simulator set-up the forces for the various motions were formed separately by means of ordinary summers. Operating experience with the simulator has shown that it is sufficient to specify the forces at a few points of the system. In the work use was made of a special-purpose simulator set-up. Its special feature is the raising of the working range up to audio-frequencies. As test problems the simulator was used to investigate the oscillations of a hinge-attached and cantilever-attached homogeneous rod with axial loads. There are 3 figures.

Z. G.

[Abstracter's note: Complete translation]

Card 3/3

S/264/63/000/003/001/004
A052/A126

AUTHORS: Baranov, A. V., Kandidov, V. P., Ordanovich, A. Ye.

TITLE: Investigation of elastic vibrations of an airplane on an electronic model

PERIODICAL: Referativnyy zhurnal, Vozdushnyy transport, no. 3, 1963, 9, abstract 3A48 (Dokl. 4-y Mezhvuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otraslyakh tekhn. Sb. 3, M., 1962, 141 - 151)

TEXT: The simulation of natural elastic vibrations of an airplane with swept-back wings and wing-mounted engines is considered. An electronic model developed at the Department of Physics of MGU made it possible to solve the problem by reducing the airplane to a system with 33 degrees of freedom. 3 stages of calculation are considered: 1) Selecting a calculation scheme (elastic-mass model), 2) composing an equation for the selected model, 3) solving the equations derived on the electronic model. The block diagram of the electronic model and methods of in-

Card 1/2

S/264/63/000/003/001/004
A052/A126

Investigation of elastic vibrations .....

vestigating vibrations are described. The studies carried out have shown the effectiveness of applying electronic models to the calculation of vibration of complex airplane designs.

O. Vershova

[Abstracter's note: Complete translation]

Card 2/2

L 16724-63 EWP(r)/EDS

S/124/63/000/004/010/064 52

AUTHOR: Barancev, A. V., Kandidov, V. P., and Ordanovich, A. Ye.

TITLE: Using an electronic model to study the elastic vibrations of an aircraft 26

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 4, 1963, 25, abstract 4B160 (Dokl. 4-y Mezhvuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otraslyakh tekhn. Coll. 3, Moscow, 1962, 141-151.

TEXT: The authors consider the use of simulation for studying the elastic eigenoscillations of a complex aircraft with swept-back wings and wing-mounted engines. The electronic model developed by the authors permitted the solution of the problem, reducing the aircraft to a system with 33 degrees of freedom. The usual differential equations of the oscillations of a complexly arranged system were derived; a certain mechanical elastic-mass model of an aircraft was used as a point of departure. The report describes minutely such an elastic-mass model; the appropriate differential equations of motion are developed; they were then solved in a special electronic model. The report gives a block-diagram model corresponding to the equations being solved. The study of the oscillations in the electronic model was conducted by the resonance method, permitting use of the new method of suppressing the degenerate motion of the system as a unit during oscillations of a free aircraft. The force

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L 16724-63

S/124/63/000/004/010/064

Using an electronic .....

of the interaction between the system of "suspension" and the aircraft in the electronic model can be monitored continuously. The authors note that the use of electronic simulation for calculating the vibrations of complex aircraft designs is especially convenient in the planning stage. No comparison was made of the results obtained in the model with the actual experiment. V. I. Bazhenov.

[Abstracter's note: Complete translation.]

Card 2/2

KANDIDOV, V.P.

Approximate calculation of inhomogeneous plates by dividing them into elements. Vest. Mosk. un. Ser. 1: Mat., mekh. 19 no.4:67-73 Jl-Ag '64. (MIRA 17:8)

1. Kafedra obshchey fiziki Moskovskogo universiteta.

KANDIDOVA, Ye.V.

Rolling of rubber with addition of premixed ingredients by rubbing them in. Kauch.i rez. 19 no.12:48 D '60. (MIRA 13:12)

1. Moskovskiy zavod rezino-tekhnicheskikh izdeliy No.1.
(Moscow--Rubber)

PALEKHOVA, S.G.; KANDIDOVA, Ye.V.

Metal surface preparation in the adhesive method of the hot bonding of rubber. Kauch. i rez. 20 no. 4:56-58 Ap '61. (MIRA 14:5)

1. Moskovskiy zavod rezino-tekhnicheskikh izdeliy No.1 i Vserossiyskiy nauchno-issledovatel'skiy khimicheskiy institut promyshlennosti mestnogo podchineniya.
(Rubber to metal bonding)

KANDID'YEV, A.N.; FROLENKO, L.A.

Oncorhynchus keta Walb. culture in fish hatcheries with low winter temperature. Trudy MMBI no.9:62-66 '65. (MIRA 18:12)

1. Sakhalinskoye otdeleniye Tikhookeanskogo nauchno-issledovatel'skogo instituta rybnogo khozyaystva i okeanografii.

KANDILAROV, B.

"Influence of the adsorption on the equilibrium form and work in the formation of crystalline nuclei on pads."

IZVESTIIA. SERIIA FIZICHESKA, Sofiia, Bulgaria, Vol. 6, Jan./Dec. 1956 (published 1957).

Monthly List of East European Accessions Index (EEAI), The Library of Congress, Volume 8, No. 8, August 1959.

Unclassified

L 34516-66 EWT(1) IJP(c) AT

ACC NR: AP6024740 SOURCE CODE: BU/0011/65/018/010/0903/0905

AUTHOR: Kandilarov, B.; Stanislavova, Y.; Andreichin, R. 36 B

ORG: Institute of Physics, BAN

TITLE: Spectral sensitivity of CdS-CdSe heterojunction photovoltaic effect and some problems of quasiepitaxy

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 10, 1965, 903-905

TOPIC TAGS: photovoltaic effect, spectrum analysis, cadmium compound

ABSTRACT: The authors reported in an earlier paper (Phys. Stat. Sol., 8, 1965, 897) the observations of the photovoltaic effect of the CdS-CdSe heterojunction. The present paper describes changes in the spectral dependence of this photovoltaic effect caused by the differences in structure of the two substances in contact. Results show that whenever a process of major importance (like the photovoltaic effect) occurs in the heterojunction region, the spectral distributions of the photoeffect for epitaxial and quasiepitaxial heterojunction appear the more similar the more completely the region of structural matching encompasses the region of heterojunction, i.e., the closer its structure comes to an ordinary epitaxial junction. This paper was presented by Academician G. Nadjakov on 5 July 1965. Orig. art. has: 6 figures. [Orig. art. in Eng.] [JPRS: 34,780]

SUB CODE: 20 / SUBM DATE: none / OTH REF: 005

Card 1/1 MQC

0915 2570

ACCESSION NR: AT4017776 B/2503/63/011/01-/0039/0047

AUTHOR: Kandilarov, B.

TITLE: Natural oscillations of a limited unidimensional crystal lattice with epitaxial structure

SOURCE: B"lgarska Akademiya na Naukite. Fizicheski institut. Izvestiya na Fizicheskiya institut s ANEB (News of the Institute of Physics and the Atomic Energy Scientific Research Foundation), v. 11, no. 1-2, 1963, 39-47

TOPIC TAGS: crystal, crystal lattice, epitaxy, oscillation, natural oscillation, natural frequency, semiconductor

ABSTRACT: Understanding of the electrical, photoelectrical, optical and thermal phenomena in semiconductor crystals with epitaxial structure requires more detailed study of the influence of the epitaxy on the spectrum of natural oscillations of the limited crystal lattice. Investigated here, as an aspect of the broad problem, is the unidimensional model, with the atom chain consisting of two connected and consecutive chains of two types of oscillators. Only the interaction between first neighbors is taken into account (Fig. 1 of the Enclosure). Derived is the characteristic equation for natural frequencies in the system, which can be represented in

Card 1/3

ACCESSION NR: AT4017776

in quite compact form by Gegenbauer's polynomials. The characteristic equation is solved for the case where the number of particles in the two connected subchains is identical and where an additional connection exists between the constants which characterize both subchains. A criterion is determined for the realizability of the epitaxy for the model under study. It is shown which natural frequencies of the individual unconnected chains are also preserved in the spectrum of the chain under study. The displacement of the other frequencies of the system is indicated by the development of an infinite series according to the degrees of an appropriately selected parameter. "Finally I must fulfill a pleasant duty in thanking Academician Khr. Khristov for the interest he has shown in the present work and for the assistance given me in the final clarification of some of the questions examined here." Orig. art. has: 1 figure, 30 equations.

ASSOCIATION: none

SUBMITTED: 22Dec62 DATE ACQ: 04Mar64 ENCL: 01

SUB CODE: PH, GE NO REF SOV: 003 OTHER: 013

Card 2/2

KANDILAROV, B.

"Introdution to the theory of semiconductors" by A. I. Ansel'm. Reviewed by B. Kandilarov. Fiz mat spisanie BAN 6 no. 3:222 '63.

L 11121-66 EWT(1) IJP(c) AT

ACC NR: AP6001077 SOURCE CODE: BU/0011/65/018/010/0903/0905

AUTHOR: Kandilarov, B.; Stanislavova, Y.; Andreichin, R.

ORG: Institute of Physics, Bulgarian Academy of Science

TITLE: Spectral sensitivity of CdS-CdSe heterojunction photovoltaic effect and some problems of quasiepitaxy

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 10, 1965, 903-905

TOPIC TAGS: pn junction, photoelectric cell, photoelectric effect, cadmium sulfide, cadmium selenide

ABSTRACT: Changes in the spectral dependence of the heterojunction photovoltaic effect arising because of the structural differences of the two contacting substances were investigated in CdS—CdSe photoelements. Tests of variously treated glass substrates showed that the largest photovoltages are obtained when the semiconductors are deposited on a smooth glass plate and when this substrate is heated during the deposition of the bottom electrode. In some cases good photoelements were also obtained on finely matted and preheated glass plates. It is suggested that in the process of heating, structural changes occur in the CdS layer and in the intergrowth between the two surfaces, without affecting the long-wave sensitivity of the CdSe upper layer. Orig. art. has: 4 figures. [ZL]

SUB CODE: 10/ SUBM DATE: none/ OTH REF: 002/ ATD PRESS: 4176

Card 1/1 HW

KANDILAROV, B.

"Semiconductors," ed. by N. B. Kheni. Reviewed by B. Kandilarov. Fiz mat spisanie BAN 6 no. 2:159 '63.

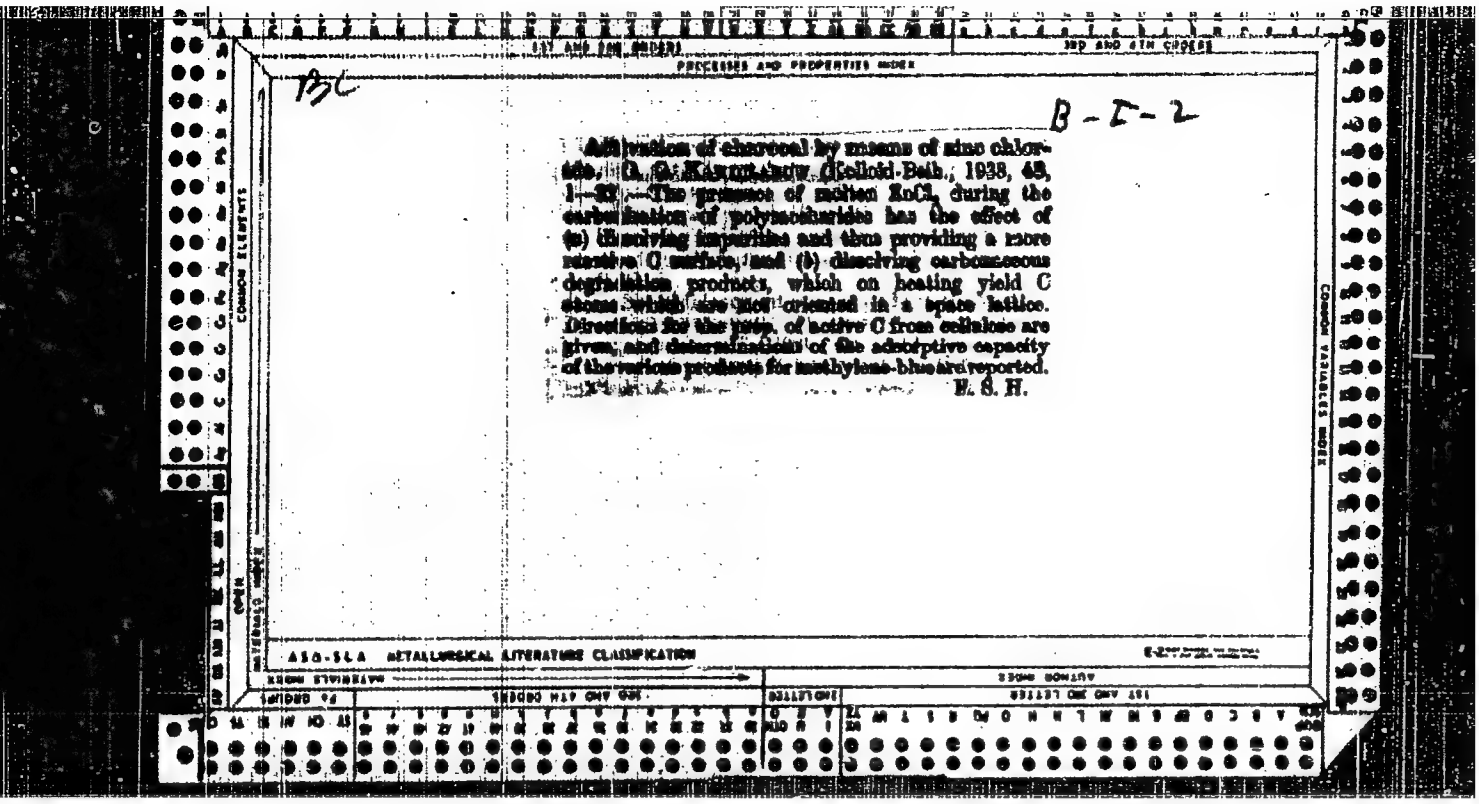
KANDILAROV, B.

Natural oscillations of a finite one-dimensional crystal lattice with epitaxial structure. Izv fiz atom BAN 11 no.1/2:39-47 '63.

KANDILAROV, B.

Eigenfrequencies of finite one-dimensional crystal lattice with epitaxial structure. Doklady BAN 16 no.3:237-240 '63.

1. Submitted by Academician C. Christov [Khristov, Kh.].



B-I-2

Activation of charcoal by means of zinc chloride. G. S. Kamenskaya. (Kolloid-Beih., 1938, 48, 1—32).—The presence of molten ZnCl$_2$ during the carbonisation of polysaccharides has the effect of (a) dissolving impurities and thus providing a more sensitive C matrix, and (b) dissolving carbonaceous degradation products, which on heating yield C atoms which are not oriented in a space lattice. Directions for the prep. of active C from cellulose are given, and determinations of the adsorptive capacity of the various products for methylene-blue are reported.

E. S. H.

KANDILAROV, G. G.

PA 19616

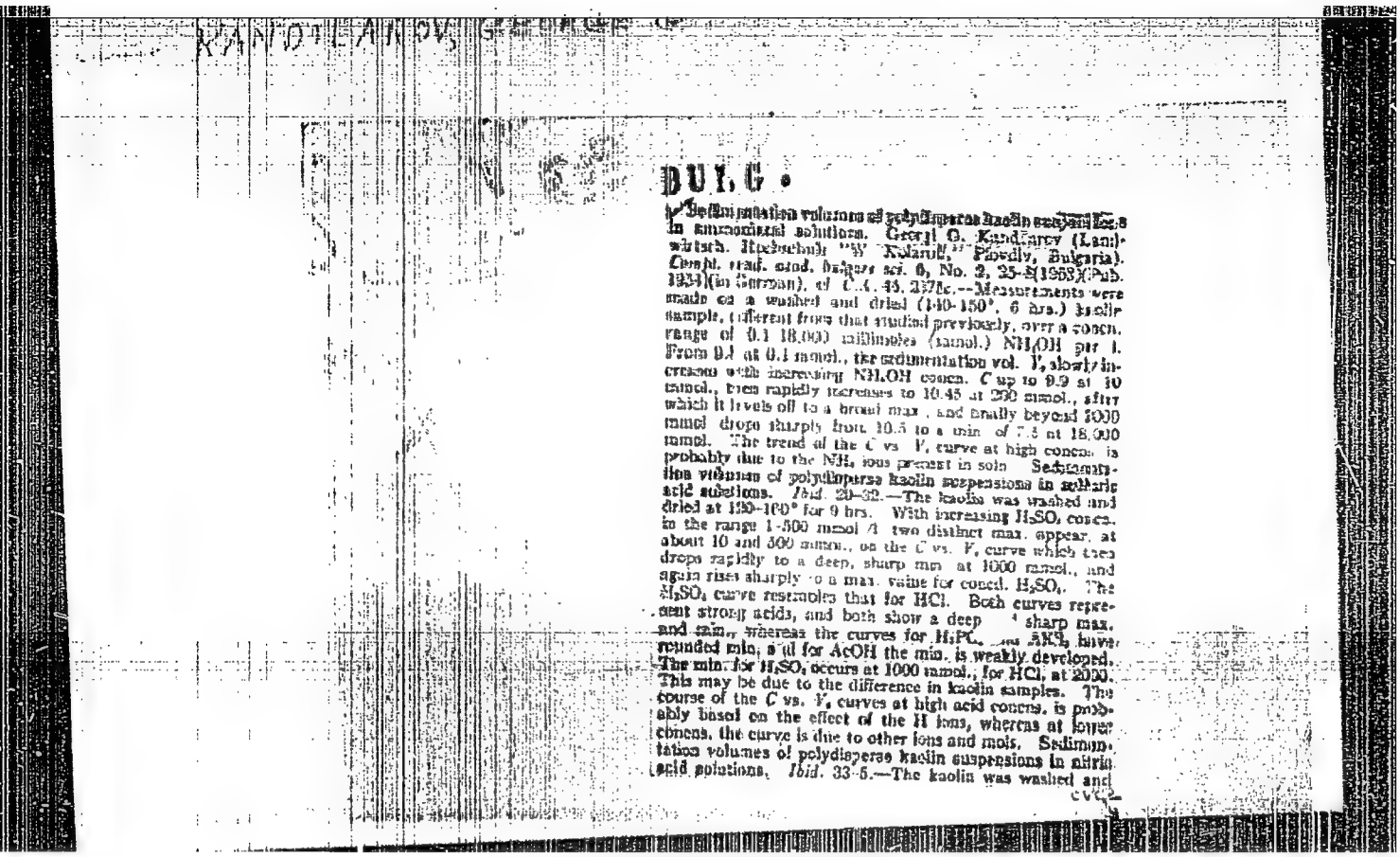
USSR/Chemistry - Kaolin Suspensions Sep/Oct 51

"Sedimentation Volumes of Polydisperse Kaolin Suspensions in Electrolyte Solutions," G. G. Kandilarov, Sofia

"Kolloid Zhur" Vol XIII, No 5, 357-365

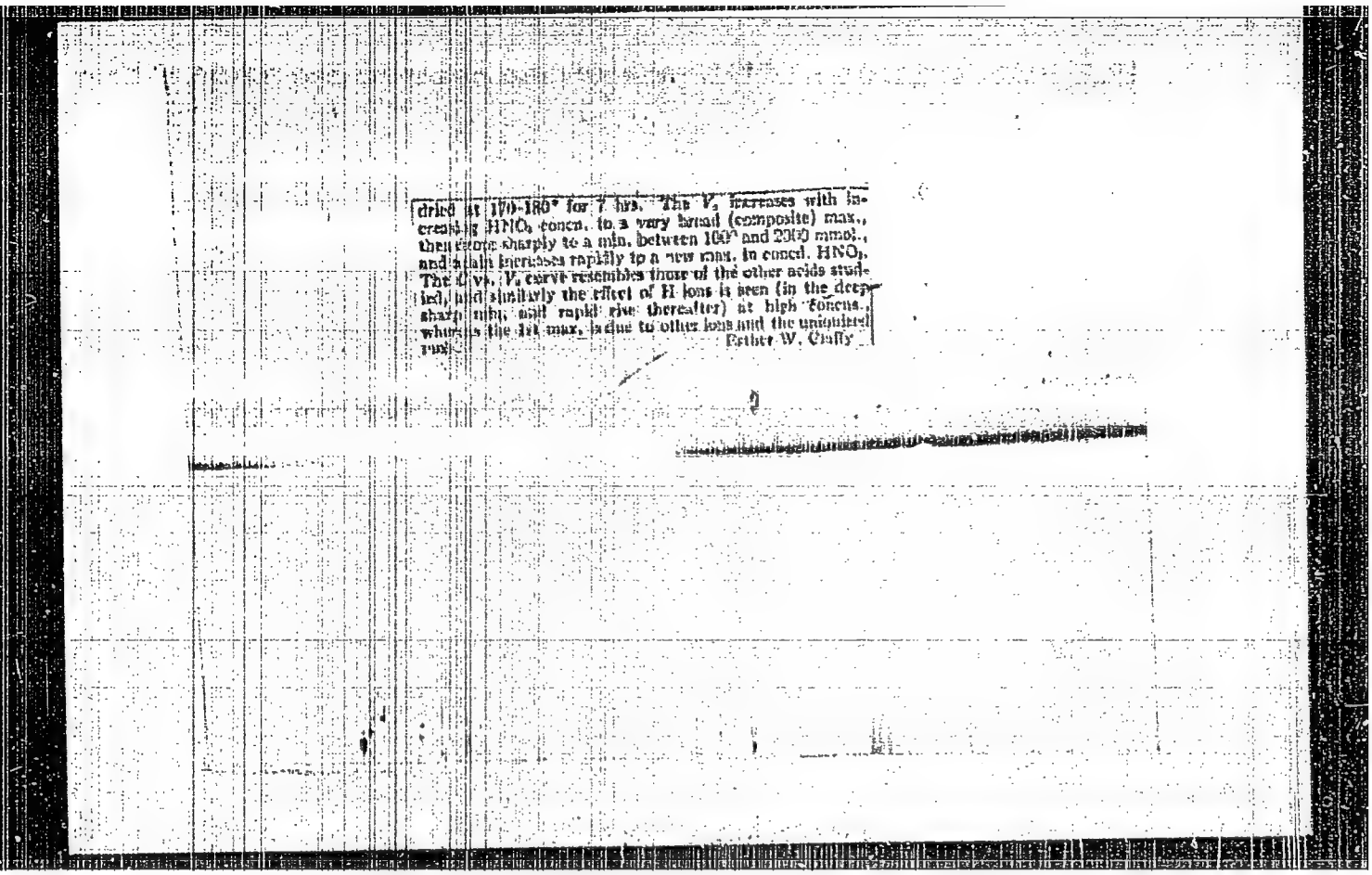
Found that the greatest effect on the sedimentation vol is produced by H^+ and OH^- ions. Also studied effects of strong acids, acetic acid, phosphoric acid, $AlCl_3$, NaOH, $Ca(OH)_2$. Found that sedimentation vols pass through a max with the increase of electrolyte concn. In the light of data obtained, discusses action of $Ca(OH)_2$ on soils.

19616



BULG.

Sedimentation volumes of polydisperse kaolin suspensions in ammoniacal solutions. Georgi G. Kandilarov (Landwirtsch. Hochschule "W. Kolarov," Plovdiv, Bulgaria). *Compt. rend. acad. bulgare sci.* 6, No. 2, 35–8(1953)(Pub. 1954)(in German). *cf. C.A.* 48, 2378c.—Measurements were made on a washed and dried (140–150°, 6 hrs.) kaolin sample, different from that studied previously, over a concn. range of 0.1–18,000 millimoles (mmol.) NH_4OH per l. From 9.1 at 0.1 mmol., the sedimentation vol. V, slowly increases with increasing NH_4OH concn. C up to 9.9 at 10 mmol., then rapidly increases to 10.45 at 200 mmol., after which it levels off to a broad max., and finally beyond 1000 mmol drops sharply from 10.5 to a min. of 7.8 at 18,000 mmol. The trend of the C vs. V curve at high concns. is probably due to the NH_4 ions present in soln. Sedimentation volumes of polydisperse kaolin suspensions in nitric acid solutions. *Ibid.* 29–32.—The kaolin was washed and dried at 130–140° for 9 hrs. With increasing H_2SO_4 concn. in the range 1–500 mmol /l. two distinct max. appear, at about 10 and 300 mmol., on the C vs. V, curve which then drops rapidly to a deep, sharp min. at 1000 mmol., and again rises sharply to a max. value for concd. H_2SO_4. The H_2SO_4 curve resembles that for HCl. Both curves represent strong acids, and both show a deep, sharp max. and min., whereas the curves for H_3PO_4 and $AlCl_3$ have rounded min., still for AcOH the min. is weakly developed. The min. for H_2SO_4 occurs at 1000 mmol., for HCl, at 2000. This may be due to the difference in kaolin samples. The course of the C vs. V, curves at high acid concns. is probably based on the effect of the H ions, whereas at lower concns. the curve is due to other ions and mols. Sedimentation volumes of polydisperse kaolin suspensions in nitric acid solutions. *Ibid.* 33–5.—The kaolin was washed and



dried at 170–180° for 7 hrs. The V_s increases with increasing HNO_3 concn. to a very broad (composite) max., then drops sharply to a min. between 100 and 200 mmol., and again increases rapidly to a new max. in concd. HNO_3. The d.v.s. V_s curve resembles those of the other acids studied, and similarly the effect of H ions is seen (in the deep, sharp min. and rapid rise thereafter) at high concns., whereas the 1st max. is due to other ions and the unionized

Esther W. Crafly

KANDILAROV, G. G.

USSR / Physical Chemistry; General Problems. Colloidal Chemistry. B-14
Dispersion Systems.

Abs Jour : Ref Zhur - Khimii, No 1, 1958, No 653

Author : G.G. Kandilarov.

Inst : Not Given

Title : Sedimintation Volumes of Polydispersed Suspensions of $Ca_3(PO_4)_2$ in Solutions of Electrolites.

Orig Pub : Nauch. Tr. Vissh. In-t Khranit. i Vkus. Prom-st Plovdiv, 1956, 3, 15-24 (Bulg.).

Abstract : The sedimentation volume V of polydispersed positively charged suspensions of $Ca_3(PO_4)_2$ decreases when $Ca(OH)_2$ is added. In the presence of NaOH, Na_2CO_3 and sodium phosphate the V initially decreases with the increase of electrolyte concentration, passing through a minimum at C corresponding to 200, 500, and 1000 mM and then increases. In solutions of HCl, the V remains constant until C $\approx$ 100 mM; during this the pH reaches 4.2 within a day, the solubilization of $Ca_3(PO_4)_2$ starts and the V drops to 0. In the presence of $AlCl_3$ the V passes through

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KANDILAROV, G.G.

USSR / Physical Chemistry; General Problems. Colloidal Chemistry. B-14
Dispersion Systems.

Abs Jour : Ref Zhur - Khimii, No 1, 1958, No 652

Author : Kandilarov, Ivanov, Maneva, Mikhaylova.

Inst : Not Given

Title : Observation of Variations in pH and Solubility of Polydispersed Kaolin Suspensions in Solutions of HCl and $AlCl_3$.

Orig Pub : Nauchn. Tr. Vissh. In-t Khranit. i Vkus. Prom-st. Plovdiv, 1956, 3, 25-30 (Bulg.).

Abstract : A study of variations of pH, sedimentation volume V, viscosity η, and solubility of polydispersed kaolin suspensions was undertaken when additions of HCl and $AlCl_3$ were made. At low concentrations of electrolyte C (0.1-10mM), the variations of η, V and concentration of hydrogen ions were semblable. In the region of high C, the pH of the suspension varies insignificantly, while V and η pass through deep minima when C equals 2000 and 500 mM for HCl and $AlCl_3$, respectively. These minima do not depend on the solubility of Kaolin which changes monotonously and insignificantly when additions of HCl are made.

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KANDILAROV, G.

Internal friction and sedimentation volumes of polydisperse kaolin suspensions in solutions of electrolytes. IV. G. Kandilarov. *Bulgar. Akad. Nauk Izvest. Khim. Inst.* 1, 283–310(1950)(German and Russian summaries); cf. *C.A.* 49, 4888g; 51, 804a.—Changes in sedimentation vol. of kaolin suspensions in solns. of HCl, H_3PO_4, $AlCl_3$, $Ca(OH)_2$, NaOH, and Na_2CO_3 are in the same direction as the changes in internal friction and due probably to changes in the thickness of the solvation sphere of kaolin particles. N. Beredjick

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KANDILAROV, GEORGI G.

USSR/Physical Chemistry - Colloid Chemistry. B-14
Disperse Systems

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4056

Author : Kandilarov Georgi G.
Title : Internal Friction and Sedimentation Volume of Polydispersed Kaolin Suspensions in Solutions of Electrolytes

Orig Pub : Kolloid. zh., 1956, 18, No 3, 293-301

Abstract : With concentrated kaolin suspensions a determination was made of sedimentation volume V after standing for 24 hours and the internal friction η in the presence of different concentrations of electrolytes: HCl, H_3PO_4, NaOH, NH_4OH, $Ca(OH)_2$, Na_2CO_3, $MgCl_2$, $AlCl_3$, HNO_3, K_2SO_4, H_2CO_3. It is shown that value of V changes with concentration of electrolyte, in general symbatically with η. V and η are determined by hydrophilic

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AUTHOR: Kandilarov, G.G. SOV/69-20-6-7/15

TITLE. Some Properties of Calcium Oxalate Deposits in Electrolyte Solutions (O nekotorykh svoystvakh osadkov shchavelevokislogo kal'tsiya v rastvorakh elektrolitov)

PERIODICAL: Kolloidnyy zhurnal, 1958, Vol 20, Nr 6, pp 713-718 (USSR)

ABSTRACT: The peptization of precipitates with densely packed particles is more difficult than the peptization of loose structures. The volume is a measure of the density of the different precipitates. The influence of different electrolytes on the density has been studied. The precipitation of calcium oxalate in NaCl, $CaCl_2$, and $AlCl_3$ is shown in Figure 1. The precipitate volume decreases, if the valency of the cations in the solutions increases. The volume is greatest in diluted electrolyte solutions, in the solutions of NaCl and Na_2SO_4, and in an acid medium. Multi-valent cations, e.g. Ca^{2+} and Al^{3+}, cause a dense packing of the precipitates, especially in high concentrations. Figure 2 shows the precipitation of calcium oxalate in sodium oxalate, sodium sulfate, etc. In an alkali medium (NaOH solution) the volume of calcium oxalate precipitate reaches its lowest value in the interval from 2-1,000 mg-mole/l

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Some Properties of Calcium Oxalate Deposits in Electrolyte Solutions

(Figure 3).
There are 3 graphs, 1 table, and 3 references, 2 of which are Soviet and 1 German.

ASSOCIATION: Kafedra neorganicheskoy, analiticheskoy, kolloidnoy i fizicheskoy khimii pri VIKhVPROM, Plovdiv, Bolgariya (Chair of Inorganic, Analytic, Colloidal, and Physical Chemistry at the VIKhVPROM, Plovdiv, Bulgaria)

SUBMITTED: May 31, 1957

1. Calcium oxalate---Precipitation 2. Calcium oxalate---Properties
3. Electrolytes---Analysis